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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,369	11/19/2001	Gregory Alan Whitlow	10541-273	1119

29074 7590 07/11/2003

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60611

EXAMINER

FORD, JOHN K

ART UNIT	PAPER NUMBER
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3743

11

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989369

Applicant(s)

Whitlow et al.

Examiner

FORD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3-24-03
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 12-14, 19-21, 29-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11, 15-18, 22-28 and 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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Applicant's response of March 24, 2003 (Paper No. 10) has been studied carefully. Claims 1 and 15 have been amended to claim, in pertinent part, that the first and second appendages are not attached to each other. This limitation presumably refers to the terminal ends of the appendages furthest from the remainder of the tube. Applicant's prior art submitted January 17, 2003 listed USP 3,692,105 as an "X" reference, as well as numerous other references. In the rejections which follow the Examiner incorporates by reference the detailed analysis of the British Examiner. A courtesy copy of his search report is attached to this action.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,8,15,25,32 and 34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by O'Connor (USP 3,692,105) or DT 2239069. Both O'Connor '105 and DT 2239069.

Both USP '105 and DT '069 clearly disclose appendages at both ends of the tube which do not form an enclosed space and a spaced apart similar to what applicants have disclosed in their Figure 2A embodiment.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4,8-11,15-18,25-28 and 32-35 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Awe et al (USP 3,731,732).

Figures 1 and 3 show a tube which satisfies the claim limitations. Curved portions 13 in Figure 1 face each other as to curved portions 14. Similarly in Figure 1, each of curved portions 13 and 14 at each edge 12 “face” each other when a horizontal line is drawn across the diagram of Figure 1 at the terminal edge. The claim can be read on the reference in at least two ways depending on whether sides 11 are considered to be the claimed “ends” or whether edges 12 are considered to be the claimed “ends”. The Examiner relies on both interpretations to maintain this rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-4,8-11,15-18,25-28 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor or DT '069 as applied to claims 1,8,15,25,32,and 34 above, and further in view of Yoshii et al. (USP 5,653,283).

O'Connor and DT '069 each show straight "appendages" at each end of the tube which project outwardly parallel to major cross-sectional axis of the tube. To have curved each of these projections towards one another as taught by Yoshii Figure 1 at "4f" would have been obvious to improve air flow as discussed in col. 5, lines 5-10, by making the transition less abrupt than a blunt end would be. Such an improved curving of the airflow would advantageously reduce the air-side pressure drop through the heat exchanger.

Regarding claim 8, each of O'Connor and DT'069 show appendages at each end of the tube (a total of four) and Yoshii explicitly teaches identical treatment of the inlet and outlet faces in col. 4, lines 32-34. Such treatment advantageously permits the heat exchanger to be installed in either orientation without air flow problems occurring due to an asymmetrical construction of the appendages.

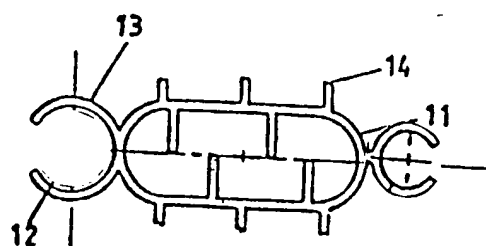
Claims 1-4, 8-11,15-18, 25-28 and 32-35 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GB 2323155.

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This reference was cited by the British patent office and the British Examiner's comments and explanation of how the claims read on the reference are incorporated here by reference.

Claims 1-4,8-11,15-18,25-28 and 32-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0179381.

The reference was cited by the British patent office and the British Examiner's comments and explanation of how the claims read on the reference is incorporated here by reference. Note in Figure 3 that there are elements 12 and 13 at each end of tube 11 (element 12 was omitted at the right hand of tube 11 in Figure 3a). The correct showing, in the Examiner's opinion, is shown on the next page:



Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claim 15 above, and further in view of EP 0881448.

Each of the prior art references relied upon above, alone or in the explained combination, teaches the structure of the heat exchanger claimed but not necessarily the end use of that structure as a condenser in an automobile. EP'448 fairly teaches that heat exchangers such as the type shown by the prior art can be used as a refrigerant condenser in an automobile or a residence. See paragraph spanning col. 14-15.

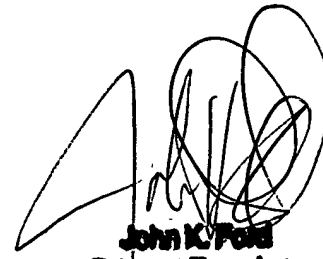
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to John K Ford at telephone number 703-308-2636.



John K. Ford
Primary Examiner